

REMARKS

The Examiner's comments together with the cited references have been carefully studied. Favorable reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

Claims 1, 2, 5 – 9 and 13 are currently in this application. On October 25, 2004, the Examiner had a conversation with Mr. Peyton Watkins regarding a restriction requirement. Representing the Applicant, Mr. Watkins made a provisional election without traverse of claims 1, 2, 5-9 and 13.

The specification is objected to. Claims 1, 6 – 8 and 13 are rejected under 35 USC 102 as being anticipated by Mitchell (5, 707,279). Claim 9 is rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Mitchell ('279). Claims 1 and 2 are rejected under 35 USC 103 (a) as being unpatentable over Teng (6,267,642 B1) in view of Mitchell ('279). Claim 5 is rejected under 35 USC 103 (a) as being unpatentable over Mitchell (279) in view of Lupi (5, 655,958). Claim 9 is rejected under 35 USC 103 (a) as being unpatentable over Mitchell ('279) in view of Cika (5,765,259). Claims 1, 2, 6 – 11, and 13 are provisionally rejected under 35 USC 103 (a) as being unpatentable over co-pending US application 10/318787 (Meissner) in view of Teng ('643). Based upon the earlier effective US filing date of the copending application, it would constitute prior art under 35 USC 102 (e) if published or patented. This provisional rejection under 35 USC 103(a) is based upon a presumption of future publication or patenting of the conflicting application. Claims 1, 2, 6 – 11 and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3 –5 and 8 – 11 of co-pending application No. 10/318,787 in view of Teng.

The specification has been amended to overcome the objection.

Claims 1, 6 – 8 and 13 are rejected under 35 USC 102 as being anticipated by Mitchell (5, 707,279). In order to maintain a rejection under 35 USC 102 each element must be taught by the reference.

Mitchell does not teach (a) lobes projecting outwardly from the recessed portion, or (b) a recessed portion that form a fluid transport region when nearest adjacent lobes are in compressive contact with a surface to be polished.

Amended claim 1 recites lobes projecting outwardly from a recessed portion. Mitchell discloses an arbor body 22 that has a slight taper so that the diameter at the end 15 shown at A is slightly smaller than the diameter at the shoulder 20 as seen at B (i.e., column 3, lines 57 – 59). In other words Mitchell discloses a cylindrical arbor body with slots disposed within the cylindrical arbor body. The cylindrical arbor body is structurally different from a polishing element with lobes projecting outwardly from the recessed portion as claimed in amended claim 1.

Amended claim 1 recites a recessed portion that forms a fluid transport region when nearest adjacent lobes are in compressive contact with a surface to be polished. Mitchell discloses a cylindrical arbor body with slots disposed in the cylindrical arbor body. The slots are asymmetrical and radially expand under centrifugal force to grip the inside diameter of a sleeve more forcefully.

Mitchell does not disclose, teach or mention the use of fluid anywhere in the Mitchell reference. Instead Mitchell discloses slots used to grip the inside diameter of a sleeve under centrifugal force. As a result, the slots are not synonymous with the claimed fluid transport region and were never intended to perform fluid transport. There is nothing in Mitchell that suggest the use of fluid or a fluid transport region bounded by adjacent lobes as recited and claimed in the instant application. Without even the mention of fluid in Mitchell, there cannot be a fluid transport region as claimed in claim 1. Therefore, the critical element of the fluid transport region is missing from Mitchell even when Mitchell is taken in its best light.

Claims 6 – 8 and 13 are rejected under 35 USC 102 as being anticipated by Mitchell (5, 707,279). Claims 6 –8 and 13 are considered allowable based on their dependence on claim 1, which is considered allowable for the reasons recited above.

Claim 9 is rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Mitchell ('279).

Claims 9 is considered allowable in view of the 35 USC 102(b) rejection based its dependence on claim 1, which is considered allowable for the reasons recited above. With respect to the 35 USC 103(a) rejection over Mitchell ('279). The Applicant takes the position that taken in its best light, Mitchell does not mention the word "fluid" or any similar mechanism, does not disclose a fluid of any sort, or does not disclose the use of a fluid for any reason. Therefore, the Mitchell reference in no way discloses a fluid transport region as recited in amended claim 1. As a result, the Mitchell reference is missing a critical element that is recited and claimed in the instant application. It is not enough for an Examiner to assume that an apparatus in a reference may be used in a manner recited in the claims. The reference itself must teach that the apparatus in the reference is used in the manner claimed. Mitchell does not even mention the word "fluid", therefore, Mitchell never intended to teach nor does Mitchell disclose a fluid transport region as recited and claimed in the instant application.

In addition, a reference must be removed when the reference teaches away from the claimed invention. As stated in lines 14 to 20 of page 5 in the instant disclosure "[a]s the polishing element 10 is rotated by the rotary device, the plurality of spaced polishing portions or lobes 20 traps polishing fluid 21 between the surface 22 to be polished and the nearest of the lobes 20. This action forces the polishing fluid 21 across the surface 22 to be polished. In the process, it also prevents polishing fluid starvation from any area on the surface 22 to be polished." As identified by the foregoing excerpt, the lobes are structurally designed to (a) force polishing fluid across the surface to be polished and (b) are structurally designed to prevent polishing fluid starvation. This aspect of the invention is also clearly shown in Fig. 2.

The fingers (44, 45, 46, 47, 48 and 49) in Mitchell expand under centrifugal force and cause the slots (30, 32, 33, 34, 35) in Mitchell to decrease. In addition, this would cause the slots to orient perpendicular

to the surface that is being polished. As a result, the slots (30, 32, 33, 34, 35) would remove fluid from the surface being polished. Removing fluid from the surface being polished teaches away from the claimed invention. The claimed adjacent lobes and the fluid transport regions are structurally designed to force polishing fluid across the surface to be polished and to prevent fluid starvation. The “slot, finger” combination disclosed in Mitchell would do just the opposite, it would remove fluid (i.e., the fluid would fill the slots) from the surface of the structure and encourage fluid starvation. As a result, the “slot, finger” combination of Mitchell is not structurally the same as the “lobe, fluid transport region” combination claimed in the instant application. The distinctly different structural orientation of the “slot, finger” combination would destroy the purpose of the claimed subject matter and could not operate in the same manner as the “lobe, fluid transport region” combination recited and claimed in the instant application. For the foregoing reasons, the Applicant believes that claim 1 is non-obvious in view of Mitchell. As a result, since claim 9 is dependent on claim 1, the Applicant takes the position that claim 9 is non-obvious in view of Mitchell.

Claims 1 and 2 are rejected under 35 USC 103 (a) as being unpatentable over Teng (6,267,642 B1) in view of Mitchell (‘279). There must be a motivation in the reference to combine the reference with a second reference. In addition, two references may not be combined if the intended purpose and function of the reference will be destroyed. The abrasive tool disclosed in Mitchell is recited in column 5 lines 32 – 55:

“....an abrasive tool utilizing a cylindrical tubular section or sleeve of exteriorally coated abrasive and a relatively soft elastomeric arbor secured to one end of the mandrel. The arbor includes a radially projecting stop flange at its inner end and has a taper configuration which enables the outer end to receive the abrasive tubular sleeve, but which creates an interference fit as the section is telescoped on the arbor until one axial end of the sleeve engages the stop flange. The tapered arbor body is provided with a series of non-radial slots which extend generally chordally to the exterior of the arbor body. The

slots may vary in number and may flare slightly as they progress chordally outwardly. The slots form a series of asymmetrical projections which permit the exterior of the body to be more pliable to enable the sleeves more easily to be pulled off or forced on the body when static or not rotating. Yet under speed, centrifugal force makes the asymmetrical projections tend to want to straighten out or become symmetrical and radially expand, at least in part, gripping the inside diameter of the sleeve more forcefully. In one direction of rotation of the sleeve, the fingers resist the torque created by the pressure of the sleeve against the work.”

Mitchell does not at any time suggest another embodiment of the arbor body. As a matter of fact, the arbor body disclosed in Mitchell is defined in great detail to accomplish the goals of the abrasive tool. For example, the arbor body is specifically defined as being of a tapered cylindrical configuration including an axial outer circular end 14 and a stop flange 16 at its axial inner end. The tapered arbor body disclosed in Mitchell is provided with a series of non-radial slots which extend generally chordally to the exterior of the arbor body. The slots may vary in number and may flare slightly as they progress chordally outwardly. Mitchell specifically recites that under speed, centrifugal force makes the asymmetrical projections tend to want to straighten out or become symmetrical and radially expand, at least in part, gripping the inside diameter of the sleeve more forcefully. In one direction of rotation of the sleeve, the fingers resist the torque created by the pressure of the sleeve against the work.

Mitchell does not at any point in the patent present any motivation to move from the very detailed embodiment presented in Mitchell to a toroidal embodiment as disclosed in Teng. Mitchell discusses a cylindrical arbor embodiment in great detail and never suggest that any alternatives to this embodiment, much less a toroidal alternative, would accomplish the inventive objectives of Mitchell. It is not enough to be able to mix and match elements of two disclosures, there must be a motivation in the reference to combine the two and in addition, the

references cannot be combined in a way that destroys the function and intent of either reference.

There is nothing in the references that suggest that the arbor body disclosed in Mitchell may be replaced with a polishing head that includes a toroidal shape. There is nothing in the references that suggest that the exchange of the arbor and the toroidal shaped polishing head would result in a apparatus that could work as suggested in Mitchell, Teng, or in the instant application. In addition without undue experimentation, there is nothing that defines how slots in Mitchell and/or the slot recesses in Teng would be combined with the stop flange 16 of Mitchell to implement the arbor body 22 disclosed in Mitchell or meet the limitation of the claims in the instant application.

Mitchell defines slots (30, 32, 33, 35, 35) designed in a specific orientation to accomplish specific goals. Teng discloses slot recesses 42 in a different orientation to accomplish different goals from those stated in Mitchell. It is unclear, how these two different slot orientations, could combine into a toroidal shape, to accomplish the stated objectives of either reference, or the limitations of the claims in the instant application without undue experimentation. As a result of the foregoing, the Applicant is of the opinion that the 35 USC 103 rejection should be removed.

Claim 5 is rejected under 35 USC 103 (a) as being unpatentable over Mitchell (279) in view of Lupi (5, 655,958). The foregoing argument with respect to Mitchell apply since claim 5 is dependent on claim 1. There is absolutely no motivation found in Mitchell to combine the apparatus disclosed in Mitchell with the apparatus disclosed in Lupi. In addition, it is unclear to the Applicant how one could possibly combine the apparatus disclosed in Mitchell with the apparatus disclosed in Lupi without undue experimentation and/or without destroying the function of each apparatus.

The Examiner states that Lupi discloses a grinding wheel for smoothing and polishing that has a continuous groove formed in a circumferential portion that is congruent with the contour of the material to be smoothed or polished and uses the abstract, lines 7 and 8 for support.

The Applicant is unable to find the excerpt that the Examiner is referring to at lines 7 and 8 of the abstract.

A continuous groove 41 is shown in Figs. 3A, 3B, and 4 of the instant application. Claim 1 recites that the continuous groove is found in a circumferential portion of the polishing element. There is no continuous groove recited in the circumferential portion of the polishing element. Using Figs. 3 and 4 of Lupi, coating 12 is shown without any continuous groove deployed therein. The grinding wheel is said to be divided into two parts along an equatorial plane (i.e., abstract, lines 3-4), however, an equatorial plane is not the same as a continuous groove deployed around a circumferential portion as recited in claim 5.

Claim 9 is rejected under 35 USC 103 (a) as being unpatentable over Mitchell ('279) in view of Cika (5,765,259). The foregoing argument with respect to Mitchell applies since claim 9 is dependent on claim 1. Cika discloses a vacuum nozzle for cleaning ceiling fan blades. There is no motivation to combine the abrasive tool disclosed in Mitchell with a vacuum nozzle for cleaning ceiling fan blades. The two disclosures are in very different non-analogous arts. Further, a vacuum nozzle is in a completely different non-analogous art from the polishing tool disclosed in the instant application. In column 7, lines 14 – 19, Cika discloses that different portions of the nozzle 100 can be fabricated separately and then joined to the handles 110, 1110 using chemical bonding. However, bonding a vacuum nozzle to a handle is substantially different from bonding a polishing element to a support member. There is absolutely, no relationship between an abrasive tool, and/or a polishing member and the vacuum head nozzle 100 disclosed in Cika. Therefore, the Applicant believes that the rejection under 35 USC 103(a) should be removed.

Claims 1, 2, 6 – 11, and 13 are provisionally rejected under 35 USC 103 (a) as being unpatentable over co-pending US application 10/318787 (Meissner) in view of Teng ('643). The subject matter of application 10/318787 and the subject matter of the instant application, at the time the invention of Application 10/318787 was made and at the time

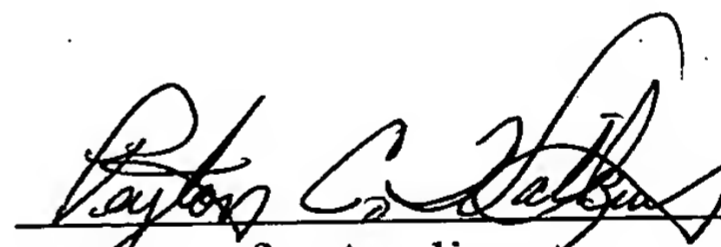
that the invention in the instant application was made, were both under an obligation to assign to Eastman Kodak Company.

Claims 1, 2, 6 – 11 and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3 – 5 and 8 – 11 of co-pending application No. 10/318,787 in view of Teng. Applicants herewith file a terminal disclaimer in compliance with 37 CFR 1.321(c) to overcome a double patenting rejection based on a nonstatutory double patenting ground.

In view of the foregoing remarks and amendments, the claims 1, 2, 5 – 9 and 13 are now deemed allowable and such favorable action is courteously solicited.

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

Respectfully submitted,


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Enclosures: Replacement Figures 2, 3B and 8A
Annotated Sheet Showing Changes
Letter to the Official Draftsperson
Copies of Formal Drawings

If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.

Amendments to the Drawings:

Replacement sheets for FIGS. 1-11 are enclosed which formalize the drawings that were submitted with the application. The enclosed sheets of drawings include changes to Figures 2, 3B and 8A. These sheets replace the original Figures 2, 3B and 8A. Approval by the Examiner is respectfully requested.

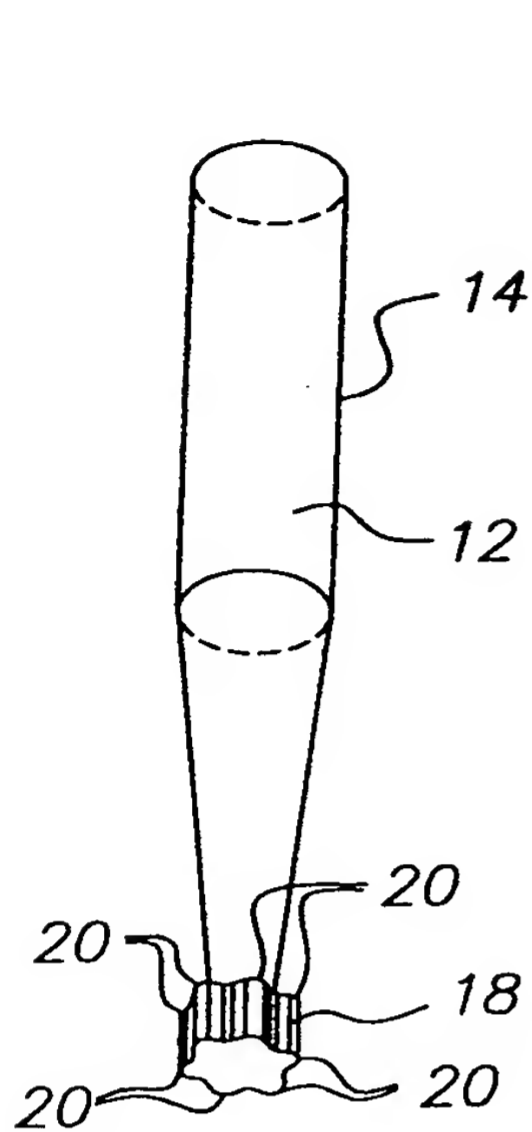


FIG. 1A

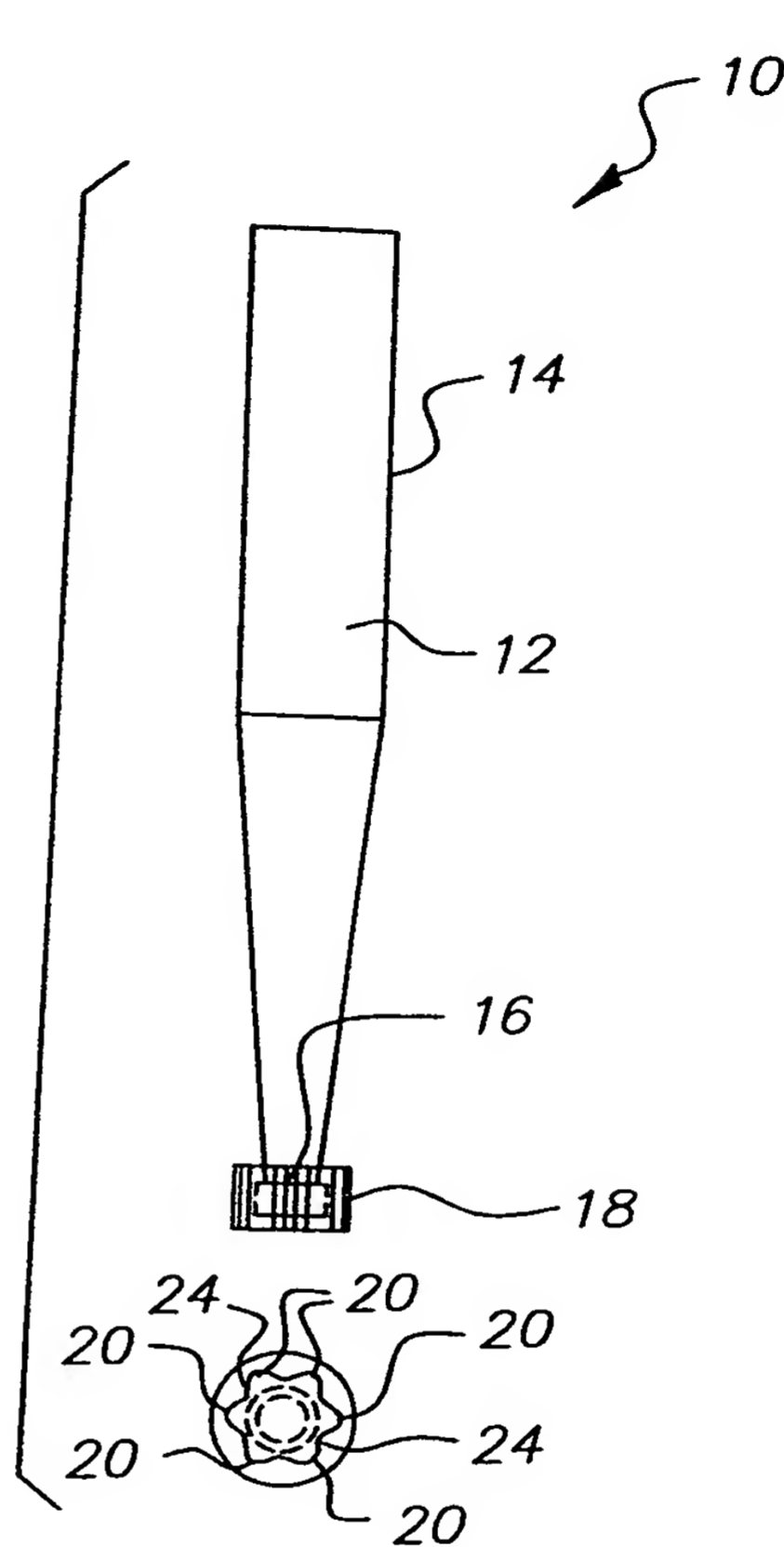


FIG. 1B

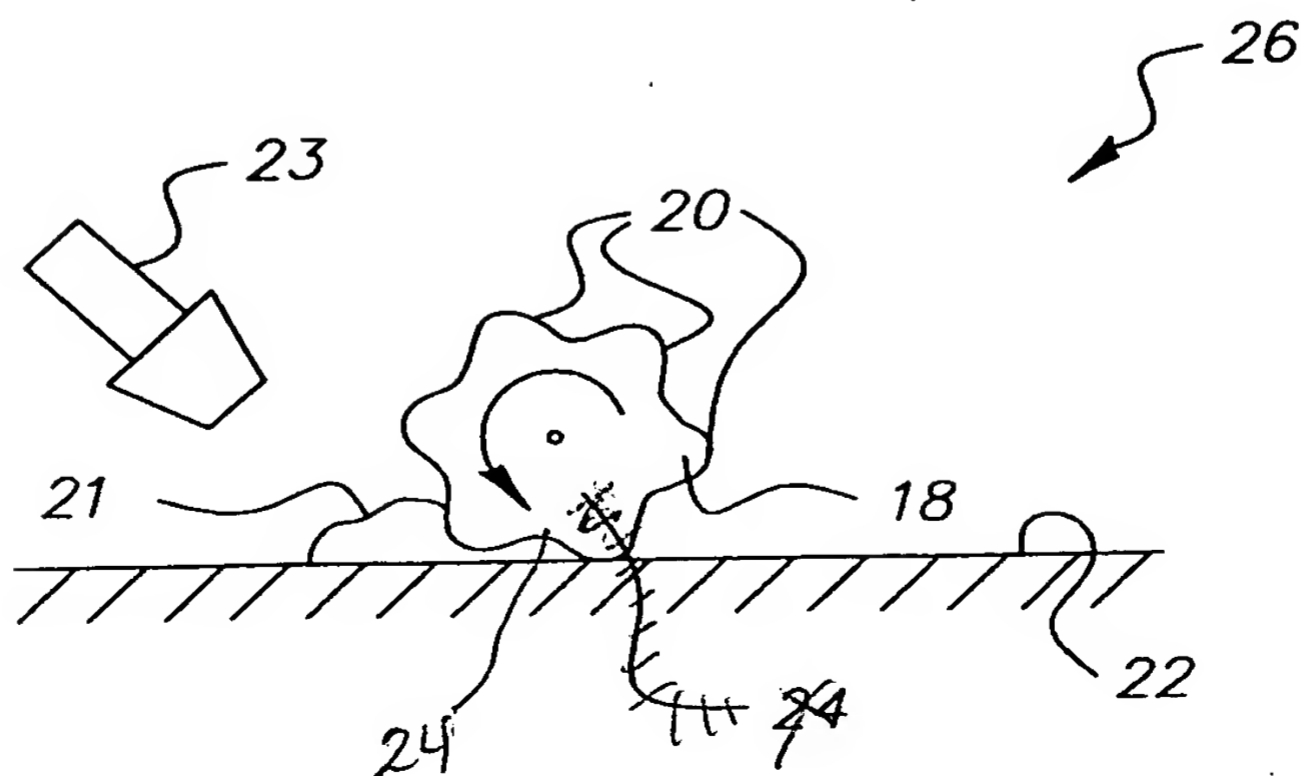


FIG. 2

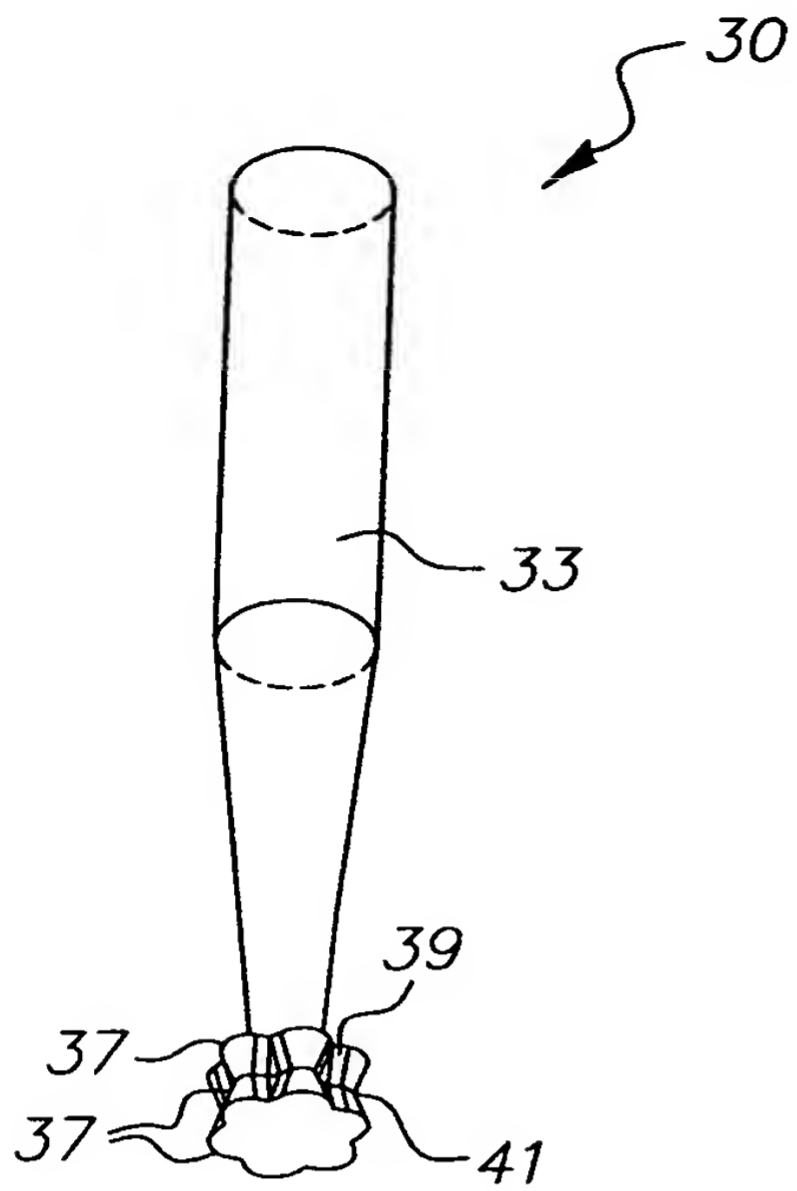


FIG. 3A

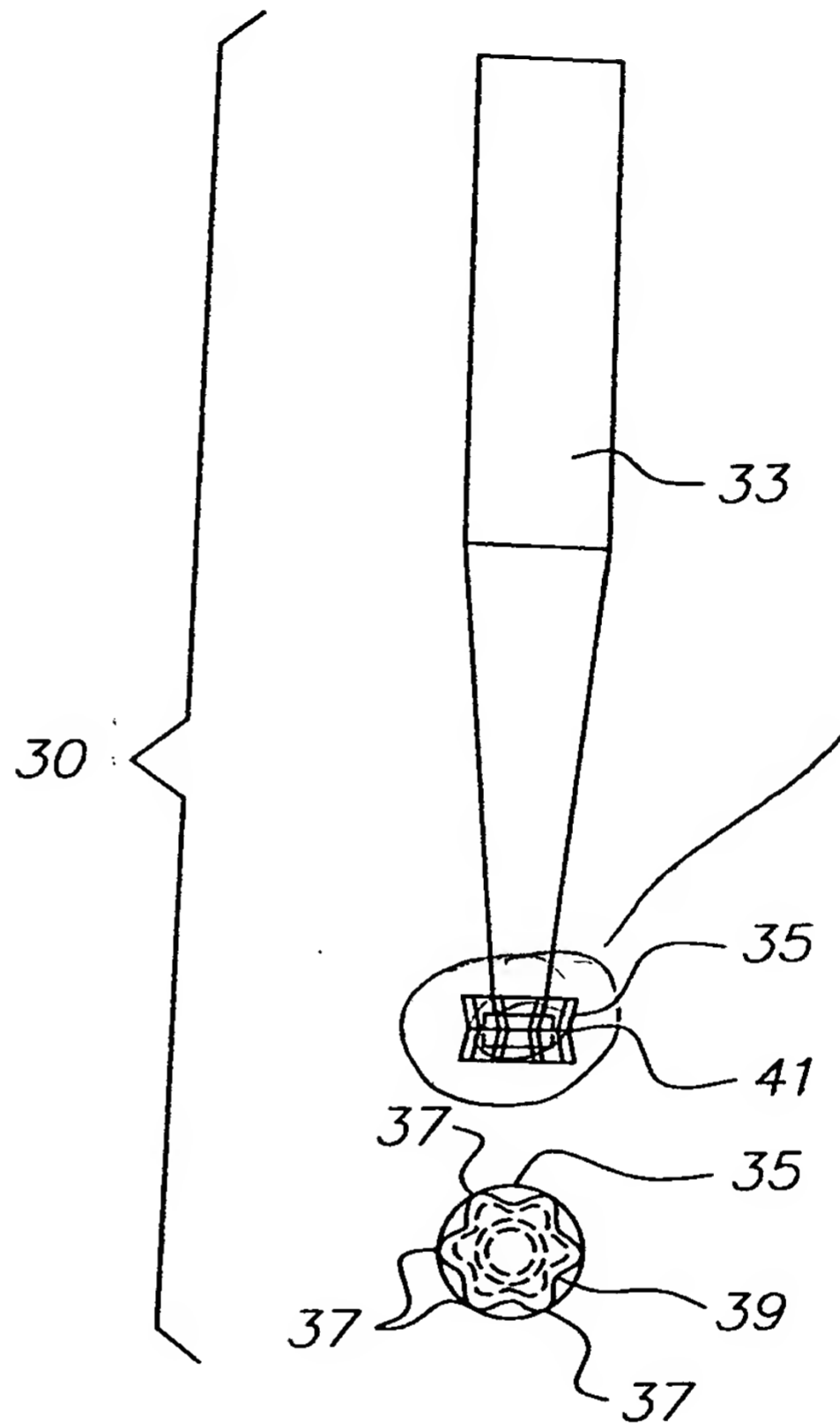


FIG. 3B

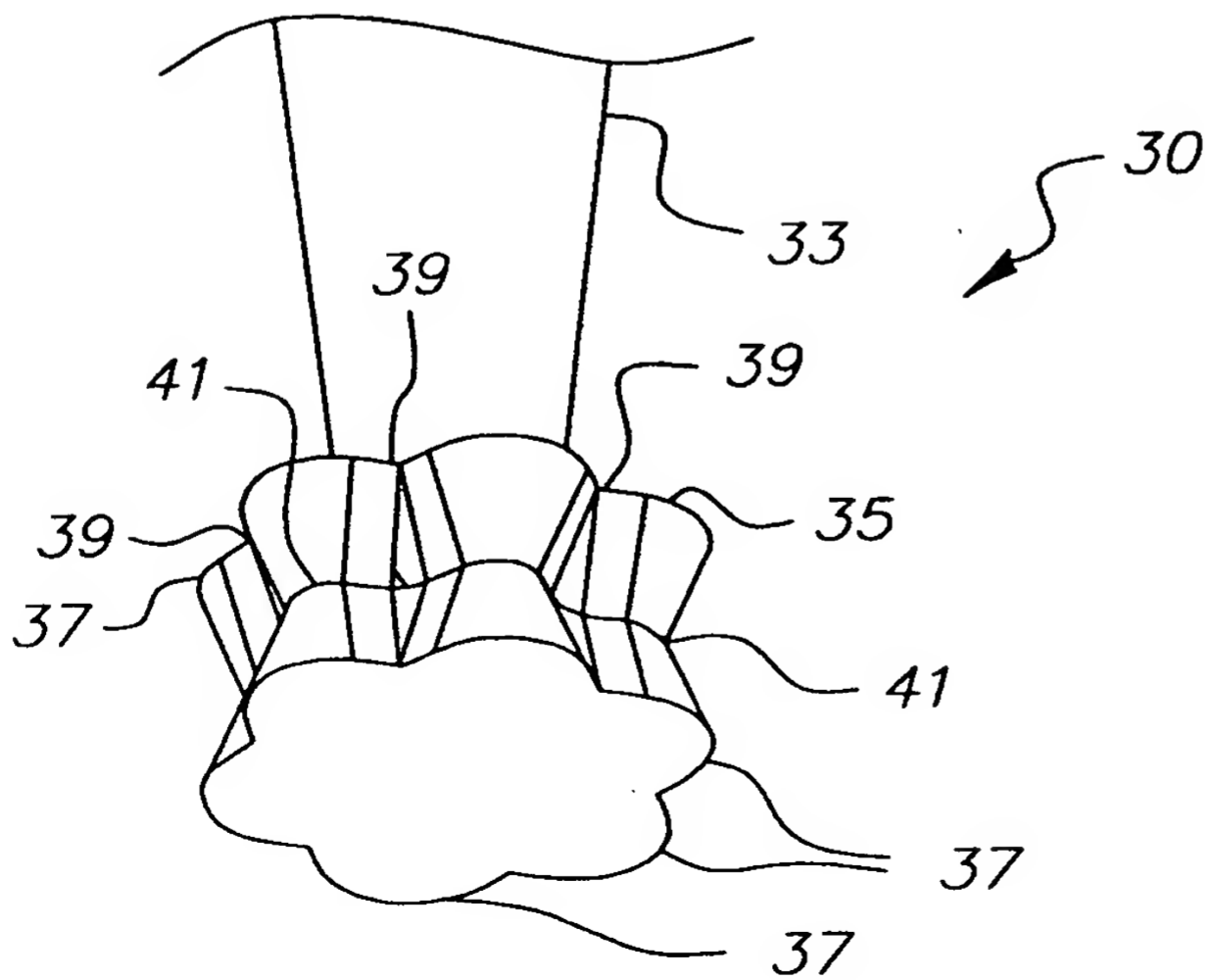


FIG. 4

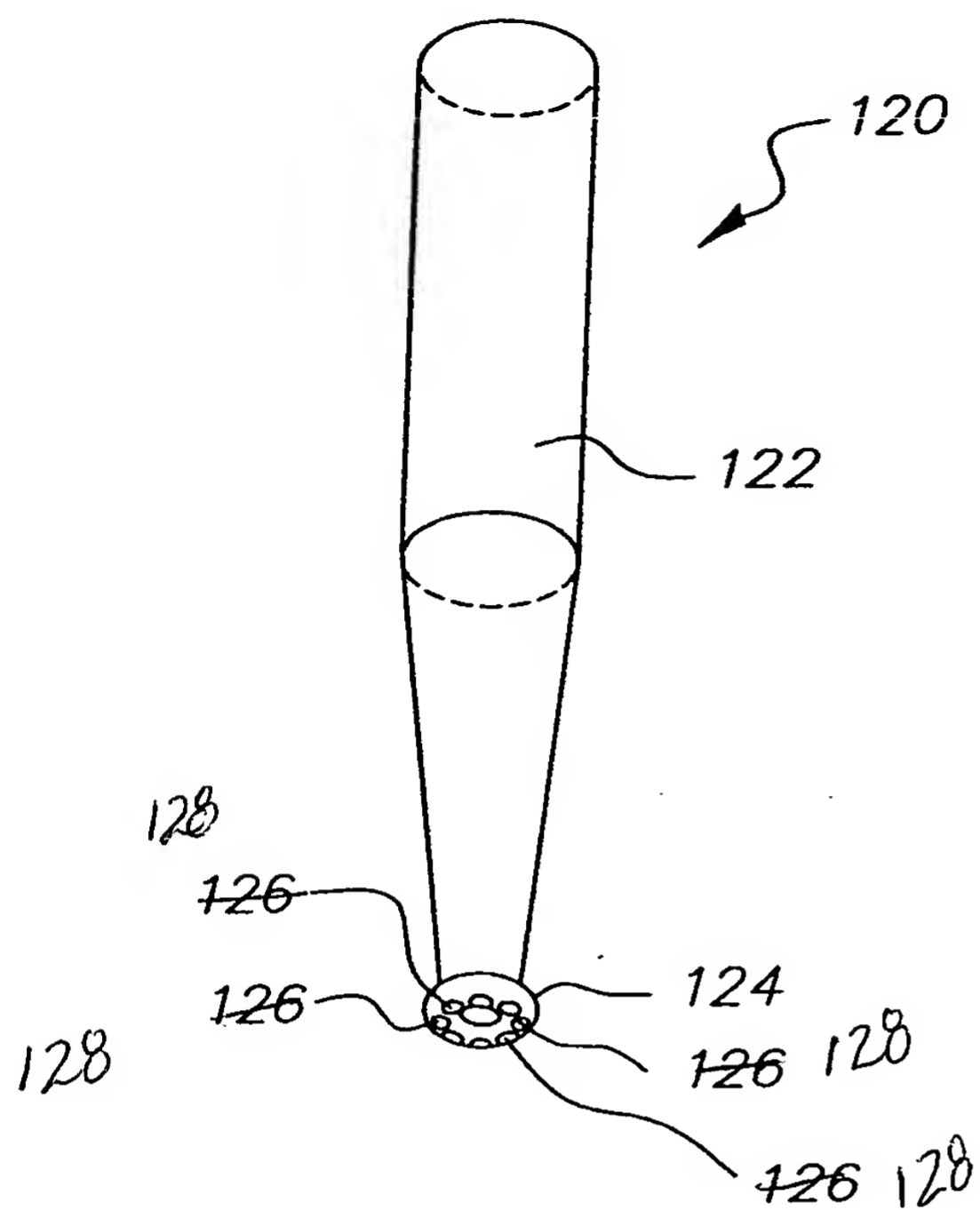


FIG. 8A

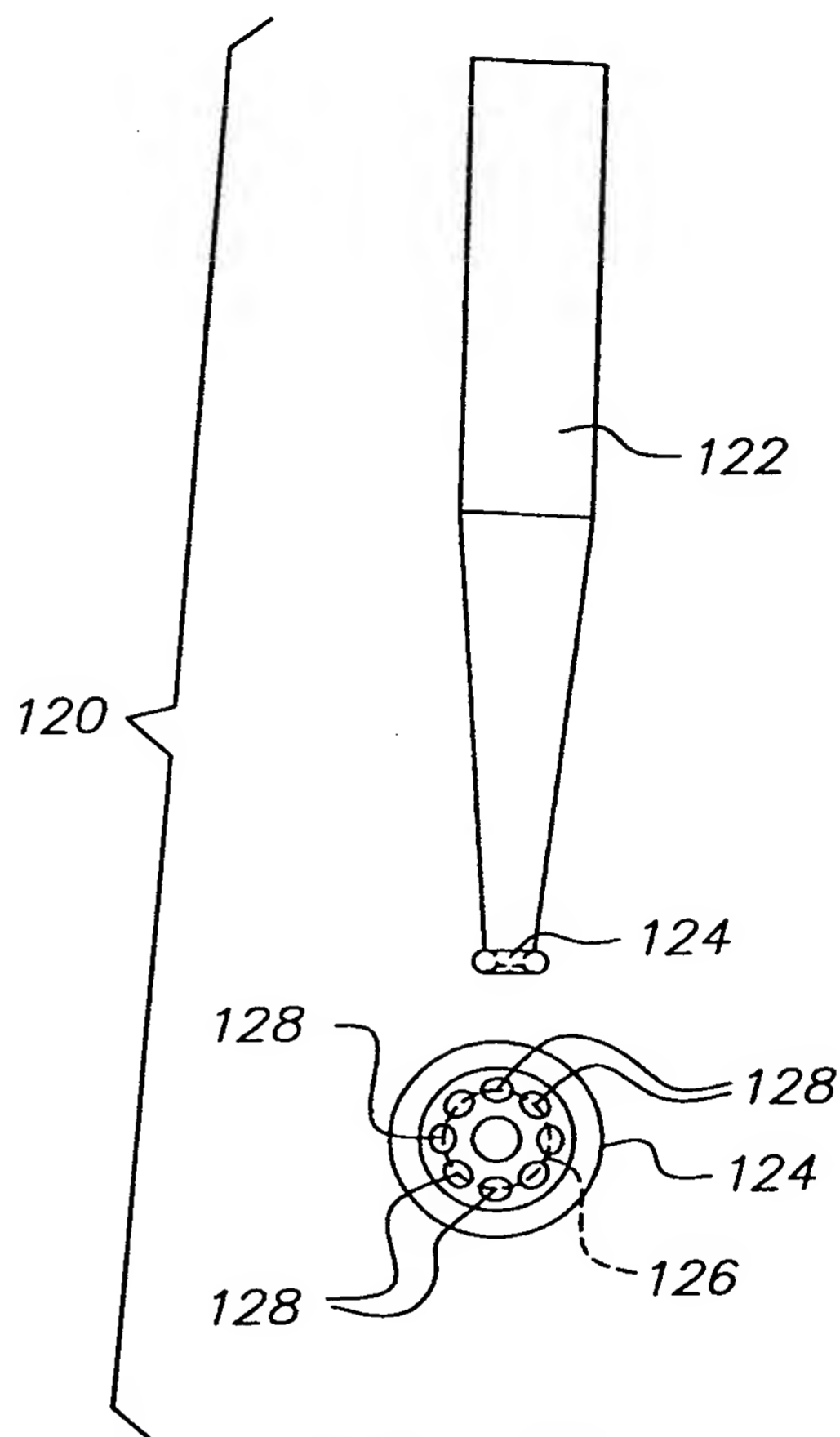


FIG. 8B

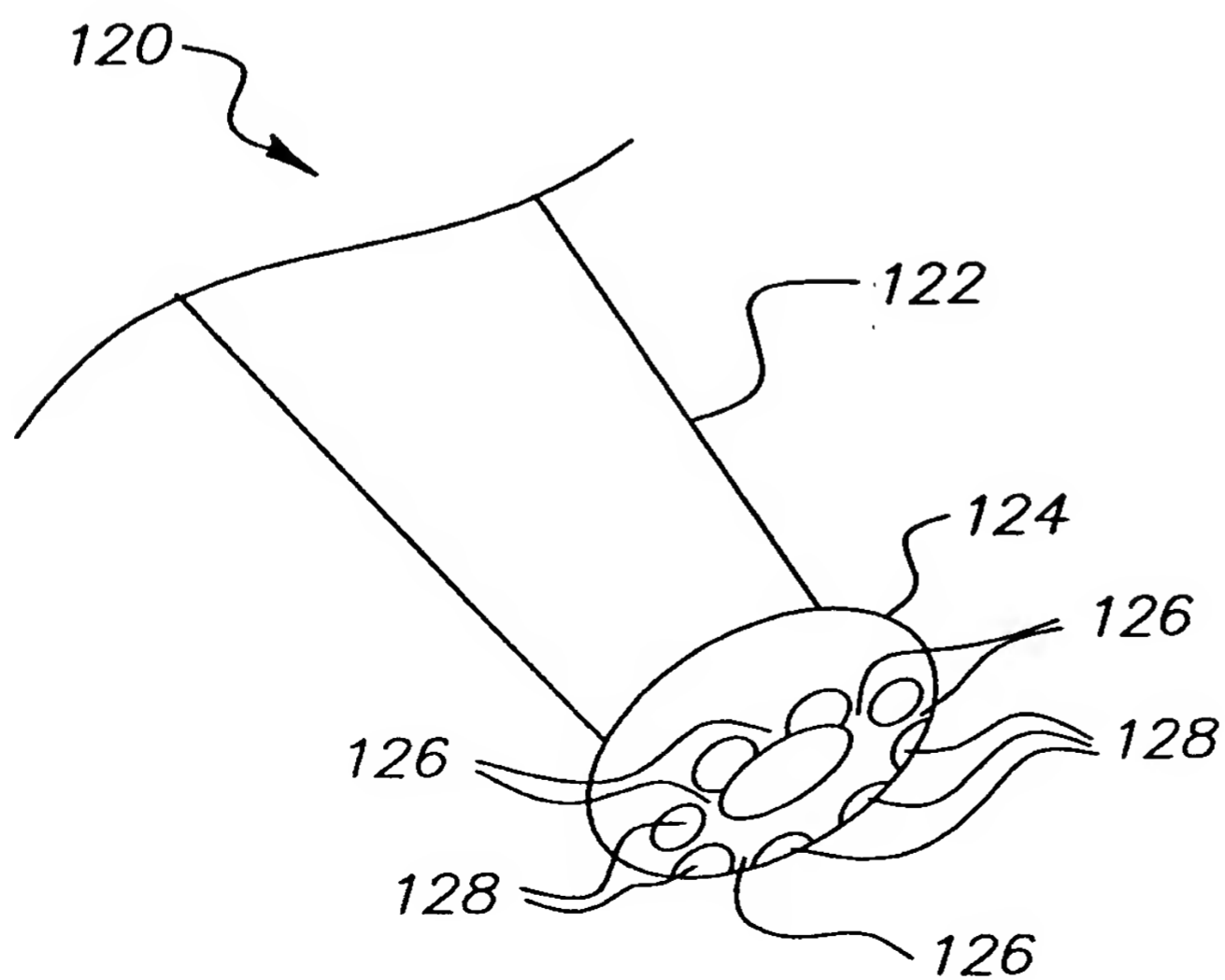


FIG. 9